Filing Date: February 27, 2004

Title: SYSTEMS AND METHODS FOR CREATING PAGE BASED APPLICATIONS USING DATABASE META DATA

## IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A computerized method for creating a page for an application, the method comprising:

reading metadata for a database, the metadata including a constraint definition for at least one column of the database;

translating the metadata into a <u>first</u> page description language <u>code</u>, the <u>first</u> page description language <u>code</u> including a translation in accordance with the constraint definition; [[and]]

outputting the <u>first</u> page description language <u>code</u> and <u>integrating the first page</u>

<u>description language code</u> with a second page description language code; and

<u>generating a page based application based on the first and second page description</u>

language code.

- 2. (Original) The computerized method of claim 1, wherein reading metadata includes reading column definitions for the database.
- 3. (Original) The computerized method of claim 2, wherein reading column definitions includes reading a column name and a column data type.
- 4. (Original) The computerized method of claim 2, wherein reading column definitions includes reading a null allowable indicator.
- 5. (Canceled)
- 6. (Original) The computerized method of claim 1, wherein reading metadata includes reading the metadata from a file.

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7. (Original) The computerized method of claim 1, wherein reading the metadata includes invoking an API function to read the metadata.

- 8. (Original) The computerized method of claim 1, wherein translating the metadata includes translating a database column type to a page description element type.
- 9. (Original) The computerized method of claim 1, wherein translating the metadata includes translating a foreign key reference to a multi-selectable user interface element.
- 10. (Canceled)
- 11. (Previously Presented) The computerized method of claim 1, wherein reading the metadata for the database including a constraint definition for the at least one column of the database comprises reading the metadata for the database including a constraint definition comprising a validation rule.
- 12. (Previously Presented) The computerized method of claim 1, wherein reading the metadata for the database including a constraint definition for the at least one column of the database comprises reading the metadata for the database including a constraint definition comprising an integrity rule.
- 13. (Previously Presented) The computerized method of claim 1, wherein reading metadata for the database comprises reading metadata for a relational database.
- 14. (Previously Presented) The computerized method of claim 1, wherein reading metadata for the database comprises reading metadata for an object-oriented database.
- 15. (Currently Amended) The computerized method of claim 1, wherein translating the metadata into the <u>first</u> page description language <u>code</u> comprises translating the metadata into a ColdFusion scripting language <u>code</u>.

(Currently Amended) The computerized method of claim 1, wherein translating the 16. metadata into the first page description language code comprises translating the metadata into

Hypertext Markup Language (HTML) code.

(Currently Amended) The computerized method of claim 1, wherein translating the 17.

metadata into the first page description language code comprises translating the metadata into a

programming language code.

(Currently Amended) The computerized method of claim 17, wherein translating the 18.

metadata into the programming language code comprises translating the metadata into a

ColdFusion scripting language code.

(Previously Presented) A computerized method for creating a page for an application, the 19.

method comprising:

receiving a request for a web page;

reading metadata for a database, the metadata including a constraint definition for at least

one column of the database;

translating the metadata into Hypertext Markup Language (HTML) defining the web

page; and

sending the web page to the requestor.

(Currently Amended) A computerized method for creating a page for an application, the 20.

method comprising:

receiving an identifier for a table associated with a database;

reading metadata for the table from the database, the metadata including a constraint

definition for at least one column of the table;

translating at least one column definition in the metadata into a ColdFusion scripting

language code;

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translating at least one constraint definition in the metadata into the ColdFusion scripting language, the ColdFusion scripting language code including a translation in accordance with the constraint definition; and

outputting the ColdFusion scripting language code to a page description file.

- (Previously Presented) The computerized method of claim 20, wherein receiving the 21. identifier for the table associated with the database includes receiving the identifier for the table associated with a relational database.
- (Currently Amended) A computer-implemented system including a memory for creating 22. page descriptions, the system comprising:

a database management system (DBMS) operable to manage a database, the database having metadata, the metadata including a constraint definition for [[a]] at least one column of the database; and

a metadata reader operable to read the metadata and translate the metadata into a first page description language code, the page description language code including a translation for the constraint definition.

- (Previously Presented) The computer-implemented system of claim 22, wherein the 23. DBMS comprises a Sybase DBMS.
- (Previously Presented) The computer-implemented system of claim 22, wherein the page 24. description language comprises Hypertext Markup Language (HTML).
- (Previously Presented) The computer-implemented system of claim 22, wherein the page 25. description language comprises a ColdFusion scripting language.
- (Previously Presented) The computer-implemented system of claim 22, further 26. comprising an application builder operable to read the page description language and generate a web page.

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- (Previously Presented) The computer-implemented system of claim 26, wherein the 27. application builder comprises a ColdFusion system.
- (Currently Amended) A computer system operable to generate a page based application, 28. the computer system comprising:

at least one processor;

a memory coupled to the processor; and

an operating environment executed by the at least one processor from the memory, the operating environment comprising:

a database management system (DBMS) operable to manage a database, the database having metadata, the metadata including at least one constraint definition; and a metadata reader operable to read the metadata and translate the metadata into a page description language code, the page description language code including a translation for the constraint definition.

- (Original) The computer system of claim 28, wherein the DBMS comprises a Sybase 29. DBMS.
- (Previously Presented) The computer system of claim 28, wherein the page description 30. language comprises Hypertext Markup Language (HTML).
- (Original) The computer system of claim 28, wherein the page description language 31. comprises a ColdFusion scripting language
- (Original) The computer system of claim 28, further comprising an application builder 32. operable to read the page description language and generate a web page.
- (Original) The computer system of claim 32, wherein the application builder comprises a 33. ColdFusion system.

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(Currently Amended) A computer-readable medium having computer executable 34. instructions for performing a method for creating a page for an application, the method comprising:

reading metadata for a database, the metadata including at least one constraint definition for at least one column of the database;

translating the metadata into a first page description language code, the first page description language code including a translation in accordance with the at least one constraint definition; and

outputting the first page description language code and integrating the first page description language code with a second page description language code; and

generating a page based application based on the first and second page description language code.

- (Original) The computer-readable medium of claim 34, wherein reading metadata 35. includes reading column definitions for the database.
- (Original) The computer-readable medium of claim 35, wherein reading column 36. definitions includes reading a column name and a column data type.
- (Original) The computer-readable medium of claim 35, wherein reading column 37. definitions includes reading a null allowable indicator.
- (Canceled) 38.
- (Previously Presented) The computer-readable medium of claim 34, wherein reading the 39. metadata includes reading the metadata from a file.
- (Original) The computer-readable medium of claim 34, wherein reading the metadata 40. includes invoking an API function to read the metadata.

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- (Original) The computer-readable medium of claim 34, wherein translating the metadata 41. includes translating a database column type to a page description element type.
- (Original) The computer-readable medium of claim 34, wherein translating the metadata 42. includes translating a foreign key reference to a multi-selectable user interface element.
- (Canceled) 43.
- (Previously Presented) The computer-readable medium of claim 34, wherein the at least 44. one constraint comprises a validation rule.
- (Previously Presented) The computer-readable medium of claim 34, wherein the at least 45. one constraint comprises an integrity rule.
- (Original) The computer-readable medium of claim 34, wherein the database comprises 46. a relational database.
- (Original) The computer-readable medium of claim 34, wherein the database comprises 47. an object-oriented database.
- (Currently Amended) The computer-readable medium of claim 34, wherein the first page 48. description language code comprises a ColdFusion scripting language code.
- (Currently Amended) The computer-readable medium of claim 34, wherein the page 49. description language code comprises Hypertext Markup Language (HTML) code.
- (Currently Amended) A computer-readable medium having computer executable 50. instructions for performing a method for creating a page for an application, the method comprising:

receiving a request for a web page;

reading metadata for a database, the metadata including a constraint definition for at least one column of the database;

translating the metadata into Hypertext Markup Language (HTML) code defining the web page, the HTML code including a translation in accordance with the constraint definition; and

sending the web page to the requestor.

(Currently Amended) A computer-readable medium having computer executable 51. instructions for performing a method for creating a page for an application, the method comprising:

receiving a table identifier for a database;

reading metadata for the table from the database, the metadata including a constraint definition for at least one column of the database;

translating at least one column definition in the metadata into a ColdFusion scripting language code;

translating at least one constraint in the metadata into the ColdFusion scripting language code; and

outputting the ColdFusion scripting language code to a page description file.

- (Previously Presented) The method of claim 51, wherein receiving the table identifier for 52. the database includes receiving the table identifier for a relational database.
- (Currently Amended) A method for receiving a web page, the method comprising: 53. issuing a request for a web page to a server, the request including a request for data from a database;

reading metadata for the database, the metadata including a constraint definition for at least one column of the database;

translating the metadata into a web page description language code, the web page language description code including a translation in accordance with the constraint definition; including the web page description language code in the web page; and

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sending the web page.

- 54. (Previously Presented) The method of claim 53, wherein translating the metadata into the web page description language comprises translating the metadata into Hypertext Markup Language (HTML).
- 55. (Previously Presented) The method of claim 53, wherein translating the metadata into the web page description language comprises translating the metadata into a ColdFusion scripting language.
- 56. (Previously Presented) The method of claim 53, wherein issuing a request for a webpage to the server includes issuing a request for data from a relational database.